THE AMERICAN JOURNAL OF

OPHTHALMOLOGY.

VOL. VII. JUNE, 1890. No. 6.

CONTRIBUTIONS TO OPHTHALMIC SURGERY.

BY DAVID WEBSTER, M.D., NEW YORK,

Professor of Ophthalmology in the New York Polyclinic, etc.

I. Atrophy of Eyeball from Injury; Enucleation for Sympathetic Irritation Eight Years After.

January 24, 1874. Mr. C. C., æt. 16 years, of Louisville, Kentucky, was struck on the right eye by a piece of rock, thrown by another boy, when he was 7 years of age. The sight was destroyed and a painful inflammation set in, resulting in atrophy of the eyeball. The cornea is semi-opaque and there is a cicatrix extending across its lower third, terminating in the ciliary region on both sides, and at its nasal extremity it looks as if there were a foreign body embedded. The eye is reddened, tender on pressure, and sometimes painful. The left eye has never been very strong since the injury. For the last three months it has been growing weaker, and the light gives it a good deal of trouble. The ophthalmoscope shows congestion of the optic disk and of the retina and choroid. V.=$^{20}/_{XX}$; Hm. $^{1}/_{4}$ A.=$^{1}/_{42}$. There is slight conjunctivitis of both eyes. He is fond of reading, hunting, and boxing, by which his father thinks he has injured his eyes.

As there was evident sympathetic irritation it was thought best that the atrophied eyeball should be removed. Accordingly, I administered ether and Dr. C. R. Agnew enucleated the eye. The patient recovered and returned home in a week with an artificial eye.

I saw him again on September 26. 1881. He had had no further trouble with his left eye except such as was due to his hypermetropia; of which he now had a manifest of $^{1}/_{36}$. Glasses $+ {}^{1}/_{36}$ were therefore ordered for him.

II. Piece of Guncap in Vitreous for Fifteen Years; Eyeball Enucleated for Chronic, Inflammatory Glaucoma with Threatened Sympathetic Inflammation.

February 6, 1874. Amos S., æt. 48 years, marketman, got a bit of guncap into his right eye, while shooting off a pistol, fifteen years ago. The eye has always retained some vision. It has been more or less reddened and painful for the last four or five months, and the vision is now reduced to perception of light. The tension is increased, the cornea is hazy, the iris is tremulous, and the supposed foreign body can be seen indistinctly, flopping about in a disorganized vitreous humor. There is also scleral staphlyoma. The pupil dilated and immovable.

Left eye, vision$=^{20}/_{XX}$ with $+ {}^{1}/_{48}$. The left pupil is sluggish and there are several pigment specks in the anterior capsule of the lens near the pupillary border. It was feared that sympathetic iritis was threatened, and Dr. C. R. Agnew therefore enucleated the eye, the writer having administered ether.

III. Irido-choroiditis with Cataract; Iridectomy Failing to Quiet the Eye, Enucleation Resorted to.

October 20, 1873. Mr. J. T. R., æt. 25 years, states that in March last a haziness and dimness came over his right eye. This gradually became worse until in June he could no longer

distinguish objects. He can still put up his hand and see that something is there but cannot see what it is. He has had no pain in the eye until lately, and now only occasionally. He has been under the treatment of a distinguished ophthalmologist who has given him mercury and iodide of potassium internally and a solution of sulphate of atropia in the eye. He remembers having neuralgia over the left eye a year and a half ago which lasted four or five days. He never had venereal disease, malaria, nor rheumatism. He has worn colored glasses for several months because his eyes are sensitive to light. L. V.=$^{20}/_{XX}$.

Right eye, lens opaque, pupil dilated irregularly and iris pressed forward nearly obliterating anterior chamber; tension increased; circum-corneal injection.

Dr. Agnew performed an iridectomy upon the right eye with the understanding that if that should fail to arrest the disease and quiet the eye it should be enucleated.

February 19, 1874. Mr. R. returned, saying that his eye had been growing more and more painful since the operation. The conditions were the same as before the operation except that the eyeball was harder, more red and more painful, and that the fellow eye was suffering more from sympathetic irritation. I administered ether and Dr. Agnew enucleated the eye.

IV. Enucleation for Staphyloma; Posterior Staphyloma Cut Into Causing Collapse of Eyeball During Enucleation.

February 26, 1874. Mrs. Y. came to Dr. Agnew with so large a staphyloma of the cornea and ciliary region that she could no longer close the lids over the eye. Dr. Agnew advised enucleation to remove the deformity and to render the patient more comfortable. With her consent I gave her ether and Dr. Agnew enucleated the eye. In doing so, and while attempting to sever the optic nerve, the vitreous suddenly escaped and the globe collapsed. After getting the eye out

we found that there was a large and thin staphyloma posticum which the doctor had cut into. The collapse of an eyeball during enucleation is always embarrassing but the most skillful operator does not always succeed in avoiding that accident.

V. Sight Lost from Stab-Wound; Enucleation for Sympathetic Irritation Eighteen Years Afterward; Bony Plate in Choroid.

March 12, 1874. Daniel C., æt. 25 years, engineer, gives a history of having had a knife run into his right eye about eighteen years ago. The cornea is leucomatous and the eyeball soft, atrophied, and sightless. The left eye has vision $^{20}/_{XX}$ but has recently been very sensitive to light at times.

March 18. Ether having been given by myself Dr. C. R. Agnew enucleated the eyeball. He opened it immediately, and found a bony plate occupying the place of the choroid, with an opening in it for the passage of the optic nerve.

April 29, 1874. There is still some discharge. Advised to leave out the artificial eye for a few days and bathe the eye with alum solution.

CLEANLINESS IN EYE SURGERY.

BY B. L. MILLIKIN, M.D.,

Ophthalmic and Aural Surgeon to the Charity, St. Alexis and City Hospitals, Cleveland, O.

Read before the Ohio State Medical Society, June 4, 1890.

The great advances all along the line of modern surgery have been due to the methods which have been used to protect all open wounds from the entrance of septic material. I think we may safely say that cleanliness now is the object aimed at in every surgical procedure, and the development of the aseptic and antiseptic methods, now so universally used, has this as its basis. It matters little whether we use some of the many antiseptic solutions or simply pure boiled water, equally good results may be obtained. No doubt the great care given to the minutest details in all surgical operations, the attention to the care of the instruments, of the person and the hands of the operator and his assistants, to the dressings, and the surroundings of the patient, all contribute to the wonderfully good results obtained in the surgical work of to-day.

As in general surgery so in the special surgery of eye work, cleanliness must be insisted upon if we expect to save ourselves from the mortification and blame which now attaches to suppurative troubles following operative procedures. The tendency of all reports on operative cases during late years has been in the direction of less and less trouble from suppuration after operations upon the eye and its appendages, and even less inflammation than formerly. Gentlemen now frequently claim to have long series of cataract operations with and without iridectomy, in which even an iritis does not occur, and

without any tendency whatever for the formation of attachments of the iris to the lens capsule.

Our subject may be divided into three heads, which I shall consider very briefly, vis.:

1. The care of the instruments for operation.
2. The care of the organ before and during the operation.
3. The after-treatment.

1. The care of instruments.—This is an exceedingly important matter, for, undoubtedly in many cases where severe inflammation and suppurative troubles have followed operations, the septic material has been introduced into the wounds by instruments improperly cleaned, and especially is this the case when the instruments have been introduced into the interior of the eyeball, as in cataracts, iridectomies, etc. Various plans have been followed for keeping the instruments clean, such as dipping them in boiling water just before use, washing them in alcohol, placing in carbolic acid solution, etc. Some gentlemen, after use of the instruments, place them in a dish of boiling water and cook them for several minutes—all the metallic portion of the instruments, and this is, undoubtedly, a good and safe plan. Briefly, a good method to pursue, I think, is this: Before using instruments, if they have been properly cleaned after a former operation, they should be thoroughly cleansed with alcohol, and for this purpose I know of nothing better than absorbent cotton saturated with the alcohol, with which the delicate instruments may be swabbed off very readily and thoroughly, the cotton being so soft as not to be unwieldy. If one likes they may then be placed in a solution of carbolic acid, but I do not think this has any special advantage, and the numbing effect of the carbolic solution on the fingers, in my own case at least, is disagreeable, and interferes with the delicate touch sometimes so essential for nice operating. After the operation the instruments should be thoroughly washed in hot or boiling water, and thoroughly dried and placed in their proper receptacles. It may be needless to remark, but is a very important point, that for all cutting operations the instruments should have the keenest edge

possible. Many gentlemen who do much operating on cataracts never use a knife twice without sharpening.

2. How shall we prepare the organ for operation and what shall we do during the operation? Different gentlemen and different schools pursue somewhat different plans, and if we go from clinic to clinic in different European cities, we shall observe different degrees of care and attention to details. As a rule, the continental operators pursue a little more extensive plan of antisepsis than their English brethren, but I do not know that their results are any more satisfactory than their equally brilliant confrères on the other side of the channel. In Paris, probably no one is more broadly scientific, careful, skilful, practical and attentive to details than Landolt. His plan is the thorough washing of the eyeball and its surroundings with a 1:5000 bichloride of mercury solution before an operation, the borders of the lids, the eyebrows, etc., being well scrubbed with a bit of cotton dipped in this solution. Then during the operation frequent instillations of the same fluid are employed, the utmost attention being given to details, his splendid results attesting his great care.

In Berlin Hirschberg, who almost makes his operating room his hobby, carries the question of antisepsis, or as he prefers to call it, asepsis, to the extremest degree. His room for operating is almost immaculate, and everything which is cookable is boiled and steamed and sizzled until a respectable microbe would be ashamed to show his head. His dressings, his bandages, his solutions, his instruments, his instrument cases, all are subjected to high degrees of heat, in apparatus cases constructed on purpose, causing destruction of all germs. Every gentleman who enters his room must wash his hands in soap and water and bichloride of mercury solution, and don a white robe before he can witness an operation. The greatest attention is given to rendering the eye and its appendages aseptic. And so he claims as a result the entire absence of all suppurative trouble, and even the very rare presence of any iritic inflammations and adhesions after cataract operations—certainly a most brilliant outcome of his painstaking care.

While we cannot help feeling that his system is somewhat impracticable under the circumstances in which many gentlemen are perforce compelled to do operating, yet we cannot help applauding Prof. Hirschberg for his enthusiastic attention to the interesting details of an elaborate and successful system of aseptic operating. The plan which I have pursued, and with uniformly gratifying results, has been, before an operation, to thoroughly wash with soap and warm water the entire surroundings of the eye, the lids, the brows, and the cheeks. Then the whole is freely bathed in a solution of 1:5000 bichloride of mercury. Also the eyeball itself is thoroughly washed with this solution, the lids everted and washed, the roots of the lashes and edges of lids scrubbed with the same, and everything made as clean as possible. Usually I use a 4% solution of cocaine made up with the bichloride preparation, two or three applications of which render the eye comparatively insensible to the pain of most operations. By having the cocaine so made I have no hesitation in using it, if necessary, during the progress of the operation. As the operation goes on, occasionally, as may be necessary either to cleanse the eye or to keep it moist, I have a little of the same solution dropped in the eye, or with a pledget of cotton dipped in it gently wipe off the discharges, blood, etc. When the operation is complete I carefully wash away all the discharge by flooding the eyeball and wiping off the lids, when we are ready for the permanent dressing. The only objection I have to the use of the solution of bichloride of mercury is that in many cases it produces a good deal of smarting and irritation of the eyes which often is quite severe, and continues for a considerable time after its application, so much so, indeed, that occasionally I have resorted to a solution of boracic acid in its stead. The injection of the conjunctiva is often also quite considerable. In the great majority of cases, however, its use is well borne.

This brings us to the third point, upon which I shall speak briefly—the after treatment of operations upon the eye.

Probably there is no subject in eye work upon which men

differ in their views and practice more than in this, and no plan can be outlined which would meet with the universal approval of all operators in all its details. But I think all are agreed in the few essentials of all after treatment, viz.: cleanliness, rest and protection of the organ. How we shall best obtain these has been a matter of much thought among specialists. I have no doubt that if we could obtain always perfectly sterilized water, its use alone would be quite effectual as a means of cleansing the eye as we would need, and this has been used very successfully and satisfactorily in general surgery. In eye work, however, we must remember that the enemy often lurks in the secretions of the eyelids, and may not be entirely dislodged even by the most painstaking care. For this reason we may resort to the use of antiseptic solutions, such as boric acid, bichloride of mercury, etc., with a little more feeling of ease on account of their reputed properties of destroying disease germs. Most operations, I think, do better by the organ being put at rest and protected against outside influences, and the major operations do better by rest of the entire body.

I am quite sure, however, that this latter element was carried to extremes in the eye surgery of a few years ago, as many gentlemen were in the habit of keeping all cases in bed for a long time after the more serious operations. This does no good, and in most cases is a positive harm. Old people, particularly, bear lying in bed long very badly, and I think now few gentlemen, even after cataract operations, keep patients in bed more than from two to four or five days. And the reason for cases among elderly people doing better by maintaining the natural and normal rule of life is not far to seek. Cataract, which is the most common disease for which we operate on elderly people, comes on without any general disturbance of the system, and putting such persons in bed breaks up their ordinary habits and so interferes with the normal functions of the body. So I believe keeping cataract cases in bed longer than is sufficient for the edges of the wound to adhere well together does no good, and may be a positive

harm, and the same remark applies to iridectomies. For operations which do not involve the opening of the eyeball itself, keeping in bed for more than twenty-four hours is entirely unnecessary. The almost universal rule of the profession with reference to the after treatment of operations is by protecting the eye with a compress and bandage of some kind, and I do not know that it matters with what means we do this, as I have been able to observe within the past years most of the medical gentlemen in the European clinics employ compresses and bandages, and many of their compresses wet with a solution of the bichloride, and either wet or dry bandages. A rule which I think is an important one, is, not to disturb the eye after an operation oftener than is necessary. So after a cataract operation, for instance, I would not remove the dressings for two, three, four, five, or even six days, if there were no indications giving evidence of some unfavorable disturbance, and one will often be gratified by seeing how little disturbance there has been in an eye operated on and so constantly protected for several days. Often the conjunctiva is hardly injected. I know some gentlemen claim that it is desirable to see what and how the eye is doing within twenty-four hours after an operation, but I am convinced it is meddlesome curiosity to open an eye before one gets some indications for doing so. As well might the laparotomist remove the dressings from the abdomen to see how much the wound had healed within twenty-four hours, which no one now dreams of doing without specific cause. If there is much pain, or discomfort, or other evidence showing too much inflammatory disturbance, then this is another matter, and the eye should be looked after. We often see compresses which have been left on the eye for two to four or five days removed, showing almost no discharge, and which have not been uncomfortable to the patient, in fact showing no more soiling than the compress removed at the same time from the unoperated eye.

Another rule about dressings of the eye, which I think is important, and which is frequently violated, is not to keep the eye covered too long. As soon as the wound has well healed,

if there is no hæmorrhage or inflammatory material to be absorbed, the dressings should be removed. I have often seen the irritation prolonged by keeping on dressings, which, upon their removal and leaving the eye free, has very rapidly subsided. Of course there may be specific purposes for which it is desirable to keep up pressure and protection with bandages, and for which no hard and fast rules can be laid down, but I am sure a moderately early removal of all dressings from the eyes redounds to the comfort and cure of the patient. As in general medicine or surgery, so in eye surgery, every man must use his best judgment in the special case before him as to what is the best treatment for the case under the circumstances present, and only general principles can be outlined for his guidance. But I believe that he who gives most attention and care to the details of his work, who finds even the minutest things with reference to perfect cleanliness in his eye surgery not beneath his constant watchfulness, who bends his every effort to eradicating every cause of sepsis, will be the most successful in his results, even though he may lack some of the brilliancy of manipulation and the delicacy of touch of some of his more mechanical brothers.

TRANSLATION.

PATHOLOGY AND NEW TREATMENT OF SYMPATHETIC OPHTHALMIA.

BY CHAS. ABADIE, OF PARIS.

Translated by J. WALTER PARK, M.D., of Harrisburg, Pa.

Genuine sympathetic ophthalmia, resulting from a traumatic lesion, and which causes so many irreparable disasters to the eye, is a formidable microbian disease, of infectious origin.

This new idea of its pathology, according to the investigations of Leber and Deutschmann, has, beyond a doubt, singularly thrown light upon the clinical view of this serious affection, which up to that time had still remained obscure. Since that, observation, guided by this new conception of its etiology, confirms facts which before seemed incomprehensible and not easy of explanation; and the changes of treatment are surer and more efficacious.

It seems more reasonable to admit the transmitting of the infection by continuity of tissue through the optic nerve and chiasm to the opposite eye, than through the celiary nerves and nervous centres. Besides, we do not yet know the anatomical connection between the nuclei of the trijemini, and it would seem astonishing that so serious a pracedure, bordering upon the destruction of the other eye, could arise in the eucephalic nervous centers without, as a consequence, determining other disorders and functional troubles. This, then, is a general view of its transmission from one eye to the other; the therapeutic agents applied to the injured eye may not be antiseptic; the wound may not be dressed strictly antiseptic, to prevent infection, or the edges of the wound may not lie down closely or evenly, and thus become invaded by microbes. They

soon generate and multiply, penetrating into the deeper parts of the eye, and through the chiasm into the optic nerve of the opposite side. If the disease is not promptly checked, the second eye is completely destroyed and blindness is the result. Thus we have an easy explanation of the chain of pathological phenomena during the evolution of microbes and their disorganizing action upon the healthy tissues. These same ideas seem to explain the remaining obscure points in the progress and treatment of this singular and formidable disease.

What is it then that we wish to prevent? It is enucleation. This procedure was arrived at by impircism, or rather by observation, but without any explanation to show why or how the removing of the diseased eye cured the good eye. At present we seem to have a very good explanation. It is evident that if enucleation of the infected or injured eye is performed before the infection has gained access to the optic nerve, and thus the means of communication cut off by section of the nerve, the propagation is cut short and the other eye saved.

Clinical experience has always been unanimous upon the efficacy of enucleation when done in time, before any sympathetic action is shown in the opposite eye. The question sometimes becomes very difficult, and very embarrassing to decide, as to just when sympathetic action has begun in the other eye. Here opinions begin to differ. Some recommend enucleation, while others absolutely condemn it. We see the embarassing position into which surgeons are placed. It is this question which we wish to solve.

The injured eye is the nidus for the generation of microbes. Microbes that have contaminated a wound in any way or manner multiply very fast and in immense numbers, on account of the vitality of the contused or lacerated tissues being less than theirs; It is here that they begin their work of destruction, and after becoming numerous and their vitality strong, then, and then only, do they begin their attack upon the surrounding healthy tissues, by penetrating into the deeper parts, radiating from a common centre, it being the wound or lacerated part

itself. If, in consequence, a sympathetic ophthalmia develops in the opposite eye, and the first or injured eye is enucleated, you thus remove the generating particles and prevent the microbic development.

Thus far, well done; but we have still not done our whole duty, for we are leaving a second eye to the mercies of microbian infection, which has already taken place, and which is very important to treat in order to save the remaining eye. How, then, do we propose to do this? Several ways present themselves, which we will now consider.

If the infection of the sound eye has not taken place from the beginning of the disease, the microbes as yet are few in number, and will have a severe struggle in their work of destruction in healthy tissues. Phagocytes only seem to have a tendency of destroying normal cellular tissue (this is still bacteriologically not a settled fact), and their numbers not being increased by others coming from the diseased eye, we can save the good eye. Saving the good eye will evidently, yet singularly, be assisted, besides enucleation of the bad eye, by the use of mercurial germicides (general ointment inunctions). But, on the contrary, if enucleation of the bad eye has been performed too late, after being invaded by microbes for a long time, and the deep tissues have become affected, and can no longer maintain a vigorous struggle against the large numbers of microbes which are still penetrating further into the surrounding parts, and we do not employ mercurials and germicidal treatment besides, the good eye will be destroyed and enucleation of the bad one will not save the good one. We also know this fact, by observation, that when an eye is affected by sympathetic ophthalmia, and that we are able to put a stop to its further progress, whether by enucleation or some other means, it is necessary to do it at once, before the morbid process has entirely destroyed it. The effect upon an injured eye invaded by microbes which have not lost their virulence, and the resistance of the tissues becomes weakened, is such as to cause them to go on in their destructive work with renewed activity. The results furnished by the researches and legiti-

mate bacteriological experiments are important conclusions for clinical use.

It is quite certain that enucleation done at an early date, before the infection had gained access to the optic nerve, prevents sympathetic ophthalmia in the other eye. If done later on, it may still be of use, especially when accompanied by a complete general mercurial treatment. In certain cases, it is true, it is of not much benefit, but as some authors say, it does no harm, nor aggravate the disease, but sometimes suppresses the generative process. Such, in short, was the therapeutic question of sympathetic ophthalmia before the bacteriological period; somewhat empirical and obscure. At present we have a better knowledge of the true nature of the disease with which we have to combat; we should, and we can, give much better and more effective treatment.

Where an eye is seriously injured, and it may upon first examination seem entirely lost, and the question of enucleation is proposed, we are now told that the enucleation may be avoided, and the manner of procedure is indicated. At first, we try by a strict antiseptic treatment to avoid all infection, but if, in spite of all, infection occurs, we cauterize the wound with the cautery point, wherever it may be, being careful to apply it to every part of the wound, and to have the patient thoroughly chloroformed. This does not even then always prevent sympathetic ophthalmia. Notwithstanding all this, if it should develop, try to prevent its further progress by injecting into the eye (which now seems destined to enucleation), one or two drops, at most, of a 1 to 1,000 bichloride solution. These injections cause considerable irritation for some hours, but little by little the reaction subsides, until the eye becomes normal, and both eyes then improve. The most remarkable case under observation, and which has been my first in my departure of this new treatment, is worth stating:

A lady, æt. 60 years, employed in a kiosk, accidentally run against a stair-case, injuring her left eye very severely. Seen some hours after the accident, I found upon examination an enormous rupture of the sclerotic, almost an equal distance

from the cornea and the equator of the eye. The rupture was two centimeters wide, the crystalline lens expelled, and a hernial protrusion of the ciliary body in the wound. It was washed carefully with a solution of bichloride 1 to 2,000, and antiseptic dressing applied to the eye. The patient was very poor and could not afford to stop work, but came regularly to have her eye dressed. All seemed to progress favorably until three weeks after the accident, when a severe sympathetic ophthalmia set in. The changes were so rapid that a few days after their appearance it was difficult for her to see sufficient to go around. Before proceeding to enucleate the left eye, in which cicatrization had already mostly taken place, I used the theoretical idea of pressure, and then determined to make another attempt to save the eye before removing it. I cauterized the almost insignificant remaining part of the prolapsed ciliary body, and with a 'Pravaz' syringe injected into the injured eye two drops of a 1 to 500 solution of bichloride. The reaction was severe and the pain violent. The following day there was a bright red peri-corneal injection; the posterior surface of the cornea and Decemet's membrane were absolutely opaque; but, little by little, the following day the reaction subsided, the cornea cleared up entirely, and the vision of the sympathizing eye also improved rapidly. In short, in fifteen days the vision of the sympathizing eye became almost normal, and the injured eye, which was destined to be enucleated, improved so much that the patient counted fingers several metres distant, and will be able to see sufficiently to go around almost anywhere. Four months after the accident the recovery was so complete that when the injured eye was provided with a +15 D. glass, the patient could see to read.

Another interesting case which came under my observation was a child, æt. 14 years, who had a slight injury of one eye which caused sympathetic ophthalmia in the other to such an extent as to leave her with very dim vision in both. In this difficult conjuncture, I decided to inject two drops of a 1 to 1,000 bichloride solution. The reaction was much less marked this time, subsided in a few days, and the acuteness of vision improved very much.

My last case is, perhaps, more interesting than any of the others. I have had the occasion to enucleate the right eye of this patient (before making any of my new therapeutic experiments) for sympathetic ophthalmia. Notwithstanding the enucleation, and in spite of extensive mercurial inunctions, the sympathetic ophthalmia continued progressively in the left eye, and vision became almost extinct. I likewise injected into this eye (the only remaining one), a drop of 1 to 1,000 solution of bichloride, and its further progress was stopped at once.

In support of these facts I think I am justified in saying that they mark a new era in the therapeutics of sympathetic ophthalmia of to-day. Enucleation, which heretofore was the first thing to be done, should only be resorted to, at once, in those exceptional cases where there is absolutely no hope of saving it.

In cases of severe injuries, if, in spite of all strict antiseptic treatment, severe sympathetic ophthalmia develops, before proceeding to enucleate the eye, first apply the galvano-cautery point to all parts of the wound; secondly, make intra-ocular injections of one or two drops of a bichloride solution 1 to 1,000. In this way we often put a stop to its further progress, and save the eye which otherwise would have been doomed to destruction. At last, if, in spite of all treatment, it being too late, or the enucleation ineffectual, there is only one eye remaining, and that one apparently destroyed through sympathy of the other, we should try to reduce the severity of the morbid process, which is better attained by injecting into the eye one or two drops of a 1 to 1,000 bichloride solution, and then as a trial-operation perform iridectomy or extraction of the lens.

SELECTIONS FROM AMERICAN MEDICAL JOURNALS.

ADDRESS OF THE CHAIRMAN OF THE SECTION OF OPHTHALMOLOGY.

BY S. C. AYRES, M.D., OF CINCINNATI, OHIO.

Delivered at the Forty-First Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

The Section of Ophthalmology, through its Chairman, welcomes most cordially each and every one of you to-day. Although this is only its second year of independent existence, it does not feel like a child of tender years, but rather like a man of vigor and strength. It points with pride to the programme of last year, and this as substantial evidence of its ability to hold its own with the other and older Sections. The contributions of last year were excellent and of a high order, and your Chairman can emphasize the same in relation to the programme which he has to offer.

There is no question but that there is material enough among those who devote themselves to our specialty to sustain the Section of Ophthalmology with honor and credit. It needs only the co-operation of those interested to make it so attractive that it will yearly call forth the personal observations of its members in a manner that will make its meetings highly interesting and mutually beneficial.

We have met to interchange views on topics of mutual interest, to profit by each other's experience and observations, to enjoy that social intercourse which fosters personal friend-

ship among professional men, and to accept the generous hospitality of our Southern confreres in this the beautiful capital of their State.

It has been charged that the life of a specialist makes him somewhat narrow-minded, as his work in a measure excludes the consideration of other branches. I question the truth of this. It certainly does not prevent him from taking an interest in and enjoying a retrospect of the progress which has been made in the vast field of work now occupied by medicine, surgery and the allied branches. The time was when a physician was expected to know a good deal about everything —in fact he was even expected to know everything; but that day is past.

Owing to new and advanced methods of teaching, our conception of the study of medicine is wholly different now from what it was twenty years ago. The horizon of our knowledge has so widened that we are not content to assume that we can comprehend it all. There is a limit to our ability to study, for time and physical endurance are limited, and we must content ourselves with studying well our own part and comprehending as much as possible of other allied branches. As we look out on a landscape we see clearly and distinctly what is near, but less distinctly what is in the distance. So with our specialty; it is close to our eyes and our heart and we take it all in, but we can still enjoy what surrounds us, although at a greater distance.

We know how much work it takes to keep ourselves up with the advances of the day, and we know full well that other branches are as broad, and as long, and as deep as our own, and we can appreciate the work which our colleagues have to do. From this standpoint—and I hold it is a true one—a specialist should not be narrow-minded; his own work should broaden his views of the fields of work his colleagues are engaged in. The allied branches have made wonderful progress in the past few years, and we can certainly look at their work with pride and admiration.

We look with wonder on men who now with such confidence

open the abdominal cavity and perform operations which not many years ago would have been deemed not only foolhardy, but unjustifiable. In preantiseptic days such operations would have been followed by the most disastrous results; but now—how changed! Statistics prove that these operations are not only justifiable, but positively demanded as diagnostic measures.

We learn of an eminent writer in the East something of the progress of surgery which is simply astounding. In compound fractions of all grades the mortality is only one-half of one per cent, instead of from 25 per cent to 68 per cent, as it was in years gone by. In ovariotomy Mr. Tait's percentage of loss in his second series of 1,000 cases was only 3.3 per cent, when a loss of 50 per cent was common twenty-five years ago.

Surgeons now remove a portion of the stomach in case of cancer of that organ; sections of the intestines are also removed successfully; kidneys are cut down, calculi removed, and the gland preserved to perform its function; if it cannot do so, it is removed entire; and so with the gall bladder—it is opened, calculi removed, and in case this cannot be done successfully the gall bladder itself is sacrificed. Even the citadel of the mind itself—the brain—is opened and tumors successfully removed, which had been located by long and patient study of its functions. This chapter of progress is so startling that we stand in awe and admiration, and wonder what will next be done.

Are we holding up our end of the line in this march of progress? How can each one add something to advance the good of the whole? Cases of interest fall to the lot of each and every one. Interesting and valuable observations are being made, but do we give our associates the benefit of them? How can we best do it? My answer is, by giving to the journals a prompt report of such cases. It is not necessary that an elaborate paper should be written, nor that the whole literature of the subject should be analyzed; leave that for some one else who has more time than you. With the systematic reports of the progress of ophthalmology which are given at

intervals in this country and Europe, and particularly in Nagel's Jahresbericht, your grain of seed will not be lost, but will be preserved in a permanent form utilized for the best purposes of the profession.

Take the Transactions of the American Ophthalmological Society as the representative body in this country and see how many short papers there are, and how few long ones. A single case is frequently presented, but it is the nucleus of a discussion which brings out the various opinions of those present. Let us, then, bear this in mind and give the profession the benefit of our observations.

To aid us in this, a systematic arrangement of our cases as they come on, with free notes of the various phases through which they pass, will assist us immensely.

Dr. James Anderson, in a very interesting and valuable article published in the *Ophthalmic Review* on "Some Ocular and Nervous Affections in Diabetes and Allied Conditions," says: "I think it the best and most hopeful feature in ophthalmology that it has relations, closer and more remote, with every branch of surgery and medicine."

The intimate relationship between ophthalmology and general medicine and neurology is recognized by all. The more cerebral and spinal diseases are studied, the more is this appreciated. At the present time every neurologist must be familiar with the alterations in the optic nerve, the influence of the paresis or paralysis of the ocular muscles, and the influences of errors of refraction on headaches and various subjective symptoms which are erroneously attributed to other organs.

Dr. J. Hughlings Jackson was last year elected President of the Ophthalmological Society of the United Kingdom. In his introductory address he says that he began his career in an ophthalmic hospital, and he thinks it the luckiest thing in his medical life. He there obtained lessons on exact observation which he could not have obtained in any other branch. He says that twenty-three years ago he wrote as follows: "Until physicians work at the muscular disorders of various

convulsive seizures as carefully as ophthalmic surgeons do at paralysis of the ocular muscles, our knowledge of convulsions will not advance in an orderly way." This seems almost prophetic. He has done much to clear up many obscure points in diagnosing of the pathology of cerebral and spinal diseases.

Look at the manner in which convulsive seizures of a muscle or a set of muscles on a limb or of the entire body have been studied. These phenomena have been investigated with reference to the special portion of the brain which was involved, and how grand has been the outcome. Portions of the brain presiding over certain functions are now quite clearly mapped out, and still the work goes on.

Last year we had excellent suggestions on the discussion of ophthalmic subjects, and valuable hints were given. To carry out this most desirable work, how great an aid would a classified register be, where our cases were so arranged that we could at once refer to any particular subject.

When we wish to investigate a point we naturally turn to the statistics which have been published. What a satisfaction it is to find clear and convincing light thrown on a point which was in dispute. We feel thankful toward those who have been so painstaking as to collate their cases and the results, and so tabulate them that we can make use of them. To whom are we indebted for these statistics? Public institutions, hospitals, infirmaries, etc., are expected to publish these cases; but do physicians, surgeons, oculists, etc., collect their cases and so tabulate them at any time? I fancy not. Last year at Newport we had a book for the registration of cases presented to us as a sample book of its kind, and it presented many excellent points. It was shown how easily one could refer to any class of diseases and at once record the number treated, results, complications, etc. How many oculists keep such a record, or have kept one for years past.

I think that if cases were classified as they come along one would derive much more pleasure in looking over his case book at the end of the year. He would also be better able to draw conclusions from his experience.

Many interesting cases fade from our memory as new ones crowd on with fresh points of interest. We have indistinct recollections of them, but cannot recall the name, nor the exact date; and so we move on, leaving much behind us that we ought to have preserved in a shape that we could refer to it at any time. A classified register would enable us to refer to our cases at a glance and collate and utilize them. We would in this way preserve the valuable ones and be able to sift the ordinary uninteresting ones from those we wished to preserve.

A review of the progress of ophthalmology will compare favorably with that of any other branch of medicine. The new, or rather old, operation of simple extraction is gaining in favor. Statistics are not yet extensive enough to prove its true value, but it seems to me that it is bound to supersede the modified linear extraction of Graefe, and show much superior results. Men educated in the Graefe school are loath to give up a favorite procedure, but such statistics as Knapp has furnished will prove an unanswerable argument to any objections.

The eye as associated with, or involving, renal, cerebral, and spinal diseases, and all reflex symptoms of internal organs, has been studied with renewed care. The intimate relationship between these diseases and the eye is so generally acknowledged that this point no longer needs an argument. We are fortunately able to act as guides to show our confreres through places which otherwise would be dark without the aid of the skilled ophthalmologist.

The study of the errors of refraction is receiving, I may say, universal attention. Its importance grows as it is better appreciated by the profession as well as by parents and teachers. The relief afforded by the careful and accurate adjustment of lenses is incalculable, and as accurate methods are adopted, the results of refraction work are bound to be more and more satisfactory.

This is becoming the most important as well as the most interesting branch of our specialty. In connection with this the question of strabismus comes up, and it is, indeed, most satis-

factory to know that it is now receiving intelligent and rational treatment. The results of correcting the underlying error of refraction are most satisfactory, and the necessity for making advancement operations to correct divergence after tenotomy of the internus will seldom ever occur.

Antiseptic precautions, before and after operations on the eye, are now universally adopted, and the results are very gratifying. They will grow in importance as ophthalmic surgery advances. The ophthalmic journals, foreign and domestic, and the proceedings of the ophthalmological societies abound in rich results of the researches of the most eminent men in our specialty. The pens of such men abroad as Alfred Graefe, Hugo Magnus, Van Hippel, Deutschman, Landolt, DeWecker, Leber, Schweiger, Hirschberg, Hutchinson, Nettleship, and a host of others abroad, as well as Knapp, Gruening, Noyes, Kipp, Williams, Bull, Wadsworth, Theobald, Stevens, Roosa, Risley, Harlan, Alt, Chisolm, and many others in our own country, are active in giving to the profession the results of their labors. We have thus each year a mass of rich experience presented which is of inestimable value.

Death has claimed two eminent men during the past year, Jacobson and Donders. The latter by his genius and profound study worked up the subject of errors of refraction from a theoretical and mathematical standpoint to a practical standpoint, and has left a monument to his name which will be more enduring than a shaft of marble or granite.

This year has been productive of two new and valuable text-books, one by Dr. Geo. A. Berry, of Edenburg, and the other by Dr. Henry D. Noyes, of New York. Since the book written by Wells, of London, several years ago, we have not had any general text-book written in the English language, but have depended principally upon the translations of the works of our German and French confrères. While these are very good, yet, we welcome with pleasure these two books written in the English language. They are certainly in advance in all respects of any works hitherto published, and are monuments of earnest, faithful work, which reflect great credit on their respective authors.

In order to give a practical turn to my paper, I will say a few words in relation to the topical use of bichloride of mercury in the treatment of ocular diseases. For the past year I have used it a great deal. It is not a new remedy, but a very old one. If you will consult the oldest book you have on diseases of the eye, you will see that its use is recommended there. It gave place to other and newer remedies, but now in the light of antiseptic investigation we go back to our old friend, and find it one of the most reliable agents we can command. It is a powerful remedy, and must be used with care and discrimination. And right here comes the point of greatest importance: It has generally been usee in two strong soiutions, and the end to be accomplished has been defeated by this fact. In weaker solutions it acts kindly, surely, and with very slight tendency to excite relapse.

In granular lids I have used it in a good many severe cases, and I have tested it by carefully excluding other well-known remedies, and have been much pleased with its effects. In severe cases I used it 1-500, brushing it on the lids, and then washing it off. I found this too strong for regular treatment, the eyes not tolerating it well; I fell into the habit of using it 1-2,000, and found that this did better and only exceptionally caused any unfavorable effect. Occasionally I would use the stronger solution mentioned, but relied on the weaker one. It is not painful, and patients recover from it more quickly than from the use of the crystal of copper, or from the ordinary solutions of silver nitrate.

In severe acute catarrhal conjunctivitis its effects were excellent. It was generally ordered in solutions of 1-3,000 or 1-4,000, and used three times a day, and cloths moistened with it were placed over the closed eye-lids. In phlyctenular conjunctivitis and keratitis it seemed to meet every demand required and gave excellent results. Under its influence the phlycten would disappear rapidly, and it seemed to me it prevented the development of new ones.

I have injected it frequently in blenorrhœa of the tear sac with the most satisfactory results. In purulent ophthalmia it

is questionable whether it is more valuable than our old standby, silver nitrate. There is an objection to it which we must bear in mind, especially where we order it in large quantities, that it is poisonous, and if taken internally might produce dangerous and even fatal symptoms. But the same thing can be said of atropine. The patient should be warned of the danger, and the bottle properly marked. It is a remedy which is bound to meet with increased favor, as it is more extensively used in solutions which are suited to the conditions of the eye. The use of the sublimate solution is right in the line of antiseptic treatment, and is worthy of a thorough and unbiased investigation. I hope that its use will receive that intelligent and discriminating consideration which it deserves.

Allow me, gentlemen, in conclusion, to express my unqualified confidence in the future success of our section, and to thank you for your generous contributions, and to express my high appreciation of the honor you have conferred on me as its chairman.—*Jour. Am. Med. Assn.*

GLAUCOMA FULMINANS, AFTER EXTRACTION OF CATARACT WITH IRIDECTOMY.

BY PETER D. KEYSER, M.D.,

Professor of Ophthalmology, Medico-Chirurgical College, Philadelphia.

Read in the Section of Ophthalmology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

It is a well known fact that iridectomy is the sovereign remedy for glaucoma, and a few cases have been reported (I have had such cases myself), in which there has been a return of the symptoms necessitating a second iridectomy. But never have I seen or heard of cases like those I purpose detailing in this report.

On July 21, 1888, I operated on the left eye of Mrs. E. G., an English lady æt. 66, for the extraction of senile cataract. She was in good health, but of gouty diathesis—some gouty spasmodic cough at times. The lens was completely clouded. Position and projection perfect. She had never had any severe or acute attacks of gout, although at times she said she was rheumatic. The urine had shown some albumen the year previous, but under the efficient care of her physician, Dr. A. K. Minich, this had passed entirely away.

The operation was made with all antiseptic precautions. The instruments were washed in absolute alcohol; the eyelids and skin around washed with water and soap, then a solution of silico-fluoride of sodium, gr. $\frac{1}{4}$ ℥s. The latter solution was then instilled freely in the conjunctival sac, after which a 2 % solution of cocaine was dropped in. Everything being ready, the incision of the cornea, upper section, was made, and a large iridectomy. There was no hæmorrhage of any

kind from the iris or from the anterior part of the globe which extended into the anterior chamber. After opening the capsule the speculum was removed, and the lens delivered on gentle pressure over the lower lid. No vitreous was lost, and no cortical mass left in the eye. The whole operation passed off beautifully without pain or distress. She counted my fingers very promptly and saw the persons around.

The eye was again well washed with the silico-fluoride of sodium solution, a drop of atropia sulph., gr. ij ℥j, instilled therein, to draw the iris away from the incision and prevent any anterior adhesion, and the bandage put on.

On the 22d, after a good night's rest, and twenty-four hours after the operation, the bandage was removed, the external parts of the eye washed with warm water and the eye itself with a solution of boric acid, gr. x ℥j. By a candle light the eye was examined and found in good condition. No swelling or pain. The flannel bandage was removed and a Liebreich bandage put on, whic was lighter and more comfortable.

On the 23d the eye was again washed the same as the day previous and found remarkably well; vision was excellent. Permitted to sit up in her rocking-chair all day now. On the 24th still doing well. On the 25th called to see her as usual and found her in splendid mood and condition, as there had been no pain or discomfort since the operation, and she was looking forward to the pleasure of again seeing. About an hour or two after I left her she was taken suddenly with an attack of very acute pain in the eye, extending up through the left half of the head. She had had no rest during the night, but thinking it would pass away, did not send for me, knowing that I would call the next day. When I called she was still suffering, and on removing the bandage I found the following condition of the eye: Pupil dilated, iris pushed forward towards the cornea, anterior chamber containing a large quantity of blood. Tension of the ball very great, + 3 to full extent. Vision reduced to the merest perception of light. All the appearances and symptoms of glaucoma fulminans. A solution of salicylate of eserine, gr. ij ℥j, was instilled into the

eye, and repeated three times that day. It gave relief and the next day the hyperæmia began to break up.

This treatment was continued for two or three days in the hope that the blood would be absorbed so that I could make another iridectomy. But as the blood was taken up it was perceived that the iris was pushed directly against the cornea, leaving not the least anterior chamber. I was then obliged to wait, hoping eventually to be able to get room enough to pass a small v. Graefe knife through the cornea without catching the iris, and then remove a large piece of the latter. During these days she would suffer at times with attacks of pain in the head. The tension of the ball kept up. After the absorption of the blood the vision began to improve for a few days, but then dimmed again.

It was not until fourteen days after the first attack, and under the constant instillation of the eserine solution, that I was able to make a good free iridectomy. This was done directly downwards, and at the same time lacerate the posterior capsule. The eye healed after this last operation very nicely, but developed very little vision; only light, especially when from the temporal side, and at times fingers could be seen. Sight seemed to improve for a while, then became less and less until it was almost nothing. I regretted that I could not make the iridectomy sooner, but it was utterly impossible to do so. I feel sure that if such an operation could have been done a few days after the attack, the sight would have been saved, as in the cases mentioned below.

It has been one of the phases of my professional life that, when I have a very interesting and uncommon case, within a year a similar one is sure to come under my observation, so on October 26 of the same year I removed a cataract from the left eye of Mr. James M., an English gentleman æt. 71. Position and projection was perfect. Right eye incipient cataract, but patient able to get around without assistance. Rheumatic, gouty diathesis, although then in excellent health. Urine free from albumen or sugar. The operation was made just as the previous one and under the same antiseptic precautions.

The capsule was found very tough. The lens came out on pressure, and the vitreous presented itself immediately after, but none came out of the incision.

October 27. All well. Eye washed with boric acid solution. No swelling or pain.

October 29. Eye did well until 1 A. M., when very severe pain set in, extending up into the head. The bandage was removed and applications of warm water made over the eye. When I saw him the pain was not so severe, but pupil was dilated, anterior chamber reduced, with a considerable hæmmorrhage therein, and tension + 3. Otherwise eye looked well.

The case of Mrs. G. coming immediately to my mind, I determined to make an iridectomy as soon as possible, and as the blood in the anterior chamber was so much less than in her case, I felt I could do it in a day or two after the use of eserine. So on the second day after the instillation of a 2 gr. selution of eserine, finding the hyperæmia gone, I operated. The eye then gave very little trouble; tension reduced to normal and cure took place. After the eye was well the posterior capsule, which had become opaque, was drawn out with the hook.

On January 21, 1889, his vision was with + 9 D. ⌒ + 3.5 D. cyl. 165′ 6 $^{1}/_{12}$, and + 13 D. ⌒ + 3.5 D. cyl. 165′. He read 1.05—.

Fortunately, in this case the anterior chamber was not so shallow as to prevent an iridectomy at an early day, the performing of which I am sure saved the eye from loss.

Another interesting case, although not reaching the fulminating form of those previously mentioned, but of well-marked symptoms of acute glaucoma, came before me in a hospital patient this year. Mrs. McG., æt. 58 years, well developed, rather stout and in good health. Right eye cataract—has been coming for the past three years. Position and projection perfect. Left eye, incipient cataract. Right eye extraction; upper iridectomy and lens removed on pressure without any mishap. Eye did remarkably well with excellent vision

until the ninth day, when a sharp pain suddenly set in in the eye and head; vision became dimmed. I saw her soon after the attack and found the pupil somewhat dilated and iris pushed forward toward the cornea, with ball very hard. Tension + 3. Fserine solution, gr. 4 ℥i, was instilled at once, and a 2 gr. solution that evening and next day, when iridectomy was made. The pain was relieved on the instillation of the eserine and tension began to recede, but fearing a return on discontinuing the use of the eserine, the operation was performed.

Fourteen days after the last operation she was discharged with a good eye and vision + 10 D. = $^{6}/_{XVIII}$.

In these three cases atropia gr. 2 ℥j, was instilled once only and then immediately after the operation. I have for a long while made it a rule to use the mydriatic at this time so as to remove the likelihood of the iris falling back into the incision in any way. In looking over the literature in relation to the development of glaucoma after the extraction of cataract with iridectomy, I am surprised to find so little in relation to it.

Bowman appears to be the first to call attention to it, for in the London Ophthalmic Hospital Reports, Vol. v, p. 1, he recites two cases in which there was great increase of tension after extraction of the lens and iridectomy. He says that it appeared to arise from an irritable condition of the nerves of secretion passing over into a paralytic state. Carter is the next to write of the glaucomatous condition which may arise after extraction with iridectomy, and recommends the incision of the posterior capsule.

These two are the only writers that I have seen so far who mentioned the occurrence of this condition, and in an experience of twenty-five years with large hospital service, these few cases are the only ones which have come to my notice. I have had many cases of iritis in different forms and at times subsequent to the operation of extraction, but never any developing of the marked glaucomatous symptoms and appearances as here related.

I regret exceedingly my inability to have been able to

make the second iridectomy at an early date in the first case described, for I really think that then the vision could have been saved; but when the chance came, it was too late, the eye having suffered already too severely from the glaucomatous process.

The question would naturally arise, What could have been the cause of the sudden attack of glaucoma in such an aggravated form in these cases? Priestly Smith, who has studied the pathology of glaucoma very thoroughly, after consideration of the ideas of all the other writers, claims that an insufficient circumlental space predisposes the eye to glaucoma, and this insufficiency may depend upon: 1, the increasing size of the lens which comes with advancing years (just here the query would come in, does not the eyeball reach its full growth and the lens its full size by 25 or 30 years of age?); 2 subnormal size of ball or of the ciliary zone, depending possibly on sensile contraction (I would remark also here that most cases I have seen have been with full round eyes, and how about cases in young persons and children, that occasionally occur?) 3, from the excessive size or prominence of the ciliary processes, which may be present at any time of life.

Among the exciting causes of primary glaucoma is congestion of the uveal tract which involves enlargement of the ciliary processes, which leads to compression of the infiltration angle. This may arise, as suggested by Bowman years ago, in a sudden paralytic action of the nerves of secretion causing an interference in the circulation, creating a morbid process in the ciliary processes throwing out an undue secretion into the vitreous, too rapid to pass from the vitreous into the aqueous chamber. Being thus impeded in the filtration process, a filling of the vitreous chamber takes place and a pressing forward occurs. This is seen by the advancement of the lens and iris toward the cornea accompanying the increase of tension. In the case above described there was no insufficiency of circumlental space, as the lenses had been removed, but the posterior capsules remained intact attached to the zone of Zain, making a curtain, as it were, in front of the vitreous,

which perhaps interfered with the free infiltration between the chambers. The escape of the fluid being retarded, the intra-ocular pressure naturally rises, the circulation in the ciliary processes becomes obstructed, swelling of the tissue takes place and an unusual condition of vascularity occurs; and in some cases hæmorrhage may emanate from an atheromatous condition.

It must be remembered that a single iridectomy in a glaucomatous eye does not always relieve it from the danger of a recurrence at some future day, and that another iridectomy would be necessary to save the eye.

I feel that more of such attacks of glaucoma after cataract extraction occur than we are aware of; that they have been overlooked, because not expected, and when developing have been classed as iritis.

In all cases of extraction of cataract, where there is a sudden interference in the regular and smooth course of healing, a careful examination of the tension should be made daily, and when any increase is found, instillation of eserine be made, and then, like Carter, I would recommend the rupture of the posterior capsule, preceded or accompanied, as the case may be, in many instances by an iridectomy.—*Jour. Amer. Med. Assn.*

SOCIETY PROCEEDINGS.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

OFFICE OF THE SECRETARY, 43 PRATT ST.,
HARTFORD, CONN., September, 1889.

At the twenty-fifth annual meeting of the Society, held at Pequot House, New London, July 17, and 18, 1889, the following candidates for membership were nominated and referred to the Committee on Membership:

Dr. W. McIlwaine, Trenton, N. J. Proposed by Drs. G. C. Harlan and C. J. Kipp.

Dr. B. J. Baldwin, Montgomery, Ala. Proposed by Drs. J. B. Emerson and D. Webster.

Dr. A. E. Ewing, St. Louis, Mo. Proposed by Drs. John Green and M. H. Post.

Dr. Neil J. Hepburn, New York. Proposed by Drs. O. D. Pomeroy and D. Webster.

Dr. Geo. Friebis, Philadelphia. Proposed by Drs. Wm. Thomson and H. F. Hansell.

Dr. Chas. M. Culver, Albany, N. Y. Proposed by Drs. C. S. Bull and E. Jackson.

The names of the following candidates were referred to the Committee on Membership for the next year:

Dr. Harlan P. Allen, Columbus, Ohio. Proposed by Drs. T. R. Pooley and Robert Sattler.

Dr. Richmond Lennox, Brooklyn, N. Y. Proposed by Drs. W. S. Dennett and A. Mathewson.

Dr. Frank Nodine, Cleveland, Ohio. Proposed by Drs. W. F. Mittendorf and D. Webster.

Dr. Frank W. Ring, New York. Proposed by Drs. D. Webster and J. B. Emerson.

Dr. J. M. Ray, Louisville, Ky. Proposed by Drs. D.Webster and J. B. Emerson.

Dr. E. G. Clark, Columbus, Ohio. Proposed by Drs. G. C. Harlan and W. S. Little.

By a vote of the Society, in 1882, letters setting forth the claims of each candidate to membership should be furnished by both the proposer and the seconder.

At the meeting of the Society in 1887 the following standing rule was adopted:

The report of the Committe on Membership and the election of members shall be the business of the last session of the first day of the annual meeting.

The following resolution was adopted at the meeting in 1887:

Resolved: That a public announcement by a sign of a specialty with which a member is identified is hereby declared to be in violation of the third section of the constitution.

COMMITTEE ON MEMBERSHIP.

Dr. John Green, Chairman,
2670 Washington Ave., St. Louis, Mo.;
Dr. C. S. Bull;
Dr. Arthur Mathewson;
Dr. Samuel Theobald;
Dr. W. H. Carmalt.

S. B. ST. JOHN, Secretary.

HARTFORD, 43 PRATT ST.,
MAY 30, 1890.

DEAR SIR:—The twenty-sixth annual meeting of the American Opthatmological Society will be held this year on Wednesday and Thursday, the 16, and 17, of July, at the Hotel Kaaterskill, Catskill Monntains. Hotel Kaaterskill may be reached by the West Shore R. R., either via Ulster & Del. R.

R. (leaving West Shore R: R. at Kingston), or via Catskill Mountain R. R. to Palenville, and thence by stage. For latter route leave West Shore R. R. at Catskill. The rates for members and their families are $3.00 per day.

With the view of securing an interesting discussion of papers presented at the meeting, the Secretary has been requested to ascertain the titles of all papers which may be offered; these titles will be incorporated in the formal call for the meeting, and will take precedence on the bulletin over all other papers.

In order that suitable accommodations may be secured for all members of the Society, will you please notify the Secretary before July 1st, whether or not it is your intention to be present at the meeting, and if you will be accompanied by any member of yonr family. Yours very truly,

S. B. St. John, Secretary.